

FAQ about the New HVA Application

Last week, ESF 8 rolled out a new Hazard Vulnerability Analysis Application (HVA) to respond to requests from the field for a non-spreadsheet-based tool. Feedback from the field indicated that most facilities continued to use the Excel template developed by the Kaiser Permanente system several years ago.

The new HVA Application in the Portal has a similar look and feel with more capability in reporting and roll-ups to regional and state views.

This FAQ will outline the general procedure for facilities to complete a basic HVA using the new tool

The Concept of Estimating Risk

The concept of estimating risk and the impact on an organization, a region or a state is based on the following formula:

$$\text{Risk} = \text{Probability} \times (\text{Magnitude} - \text{Mitigation})$$

Estimating Probability

The probability of an incident occurring is based both on past experience (historical data) and known risks. For Louisiana, hurricanes are a known risk. The level of that risk for a facility or a region depends on the magnitude (the various impacts) less the level of preparedness (mitigation factors).

Estimating Magnitude

Human Impact is estimated by an incident's:

- Potential for death
- Potential for injury requiring medical intervention

Property Impact is estimated by extent of physical damage that may be caused including:

- Cost to replace
- Cost to set up temporary replacement
- Cost to repair

Business impact is estimated by the effect of the incident on:

- Business interruption
- Employees unable to report to work
- Customers unable to reach facility
- Company in violation of contractual agreements
- Imposition of fines and penalties or legal costs
- Interruption of critical supplies
- Interruption of product distribution
- Reputation and public image
- Financial impact/burden

For this model, we have included two additional factors that affect the magnitude of any incident:

- Warning Time
- Duration

Considerations for **warning time** as a factor is based on the assumption that an incident that can be anticipated (more warning time) can be mitigated more successfully than an incident in which there is no warning time. Therefore, short warning times equate to a higher magnitude.

Considerations for **duration** are based on similar thinking. Short duration incidents, although they may be intense and devastating, increase recovery time and response times, ultimately mitigating the damage. Contrast this with an incident that has a longer duration and therefore more opportunities to cause damage and slow recovery and response.

Estimating Mitigation

Preparedness can be influenced by the following:

- Status of current plans
- Frequency of drills
- Training status
- Insurance
- Availability of alternate sources for critical supplies/services
- Time to marshal an on-scene response
- Scope of response capability
- Historical evaluation of response success
- Time to prepare and mitigate which may be event specific

Internal response can be influenced by:

- Types of supplies on hand/will they meet need?
- Volume of supplies on hand/will they meet need?
- Staff availability
- Availability of back-up systems
- Internal resources ability to withstand disasters/survivability

External response can be influenced by:

- Types of agreements with community agencies/drills
- Coordination with local and state agencies
- Coordination with proximal health care facilities
- Coordination with treatment specific facilities
- Community resources

While the magnitude scale is the exact opposite of the mitigation scale, it might help you “get in the rhythm” of scoring your facility by thinking about it this way: A score of “5” on a magnitude scale is very bad – that same score on a Mitigation scale is equally “very bad”. In both scales, 1 is good and 5 is bad.

- An impact score of 1 is good – little to no impact
- A mitigation score of 1 is also good – very prepared, therefore lessening the impact.

Different Views for Different Users

As with Mstat, two different opening views are possible when you open the HVA application:

1. One with the familiar group of donut-shaped charts
2. One with a tabular, spreadsheet-like view

The type of view you get depends on whether or not you are associated to more than one facility

Single-Facility User View

The following image shows the opening view for a single-facility user. You are brought right to the Hazard Input screen where you can choose a category and start entering data. Note that the following features:

1. There is a display of the last time the data was updated, by username and by date
2. A legend that shows the difference between risks and mitigation factors. We'll explain more about this shortly.

HVA
Hazard and Vulnerability Assessment

Welcome

Home Refresh Contact Help Logout

Hazard Reports

Hazard Inputs

Hazard Category tabs

Facility Type : Hospital Region : Region Facility Name :

Hazards Inputs - Facility Name:

Natural Hazard Technological Hazard Human Hazard Hazardous Material

1 Last Updated User: Last updated date: Hazard Level Risk :

2 * : 0 - N/A, 1 - Low, 2 - Moderate, 3 - High, 4 - Very High, 5 - Critical ** : 0 - Critical, 1 - Very High, 2 - High, 3 - Moderate, 4 - Low, 5 - No Preparedness

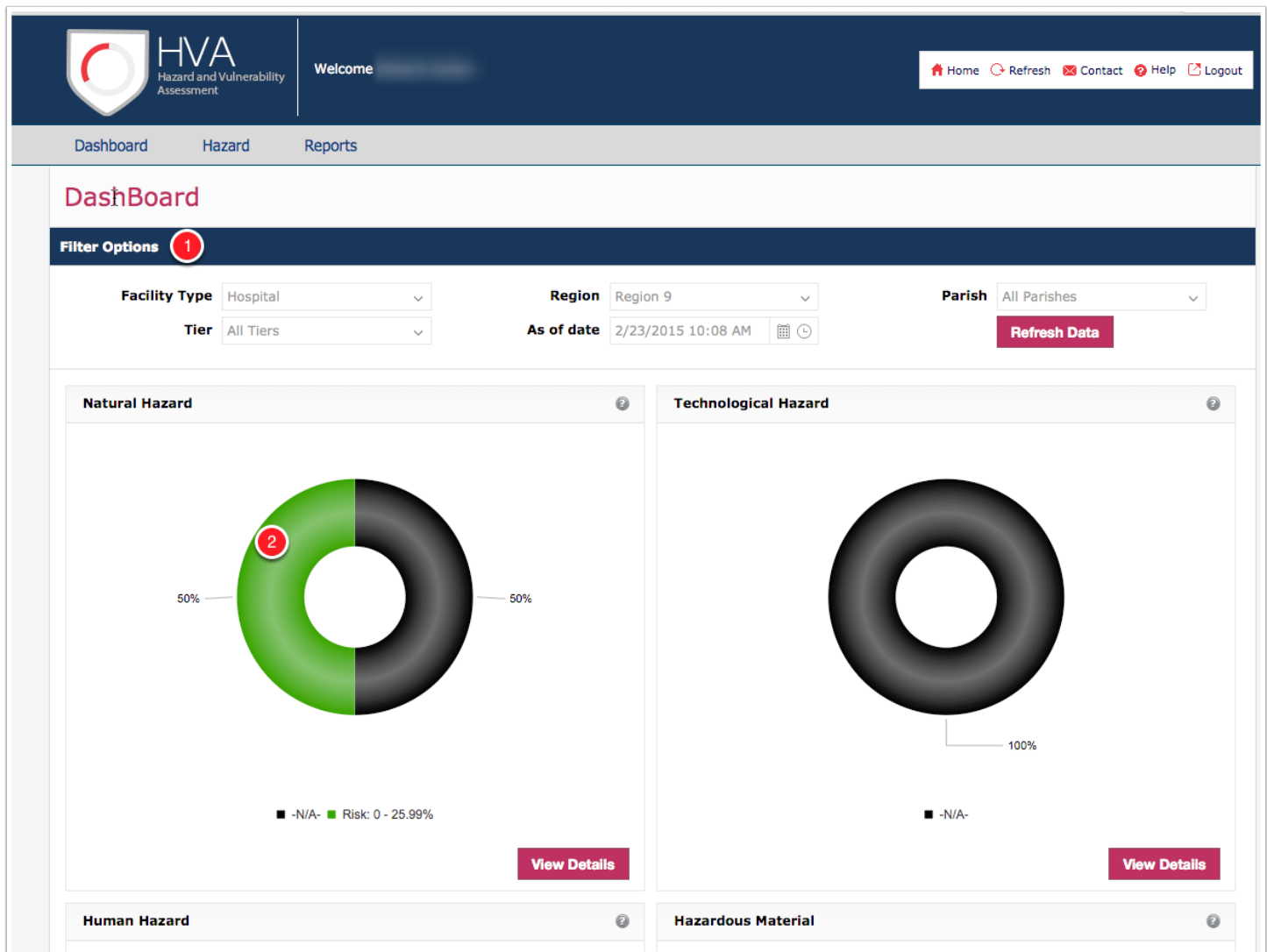
Event Name	Probability *	Human impact *	Property impact *	Business impact *	Warning Time *	Duration *	Preparedness **	Internal response **	External response **	Risk
Blizzard										
Dam Inundation										
Drought										
Earthquake										

Data input area

Multi-Facility User

Users that are associated to more than one facility will see the following opening view. Like Mstat, the donut charts show breakdowns of how many facilities in your group have indicated they have data in one of the 4 hazard categories. Note the following:

1. You have the capability to select a single facility and go its current data. There are several selection criteria if you are associated to a large group of facilities - such as a DRC.
2. Each chart is "clickable" to see the underlying data, and you can also click on the "View Details" button at the bottom right of each quadrant. We'll look at the resulting charts later.
3. If I click "Hazard" you will see the data input area for the first facility in your group. Once there, you can select another facility.



The Hazard Input View for a Multi-Facility User

As mentioned above, you can click on the Hazard link in the main menu line, and you will then see the first facility listed in your group. The following chart shows the result along with some other options:

1. You can still select another facility using some of the same criteria on the opening page.
2. You can begin to enter data for the facility displayed if that is appropriate.

Hazard Inputs

After making selections, click "Go"

1 Facility Type : Hospital Region : Region Facility Name : Go

Hazards Inputs - Facility Name:

Natural Hazard Technological Hazard Human Hazard Hazardous Material

Last Updated User: Last updated date: Hazard Level Risk :

* : 0 - N/A, 1 - Low, 2 - Moderate, 3 - High, 4 - Very High, 5 - Critical ** : 0 - Critical, 1 - Very High, 2 - High, 3 - Moderate, 4 - Low, 5 - No Preparedness

Event Name	Probability *	Human impact *	Property impact *	Business impact *	Warning Time *	Duration *	Preparedness **	Internal response **	External response **	Risk
Blizzard										
Dam Inundation										
Drought										
Earthquake										

Explanation of the Scoring Legend

After you have reached the Hazard Inputs view, you can begin to enter data. Note the legend for risks and mitigation factors:

1. The single asterik (*) items are for risk factors. (increase risk)
2. The double asteriks (**) are for mitigation factors. (lower risk)

The Risk factors have a scale from "0-N/A" to "5-Critical". A score of 5 for an item such as a hurricane indicates the highest level of risk for the item selected (5 is "very bad")

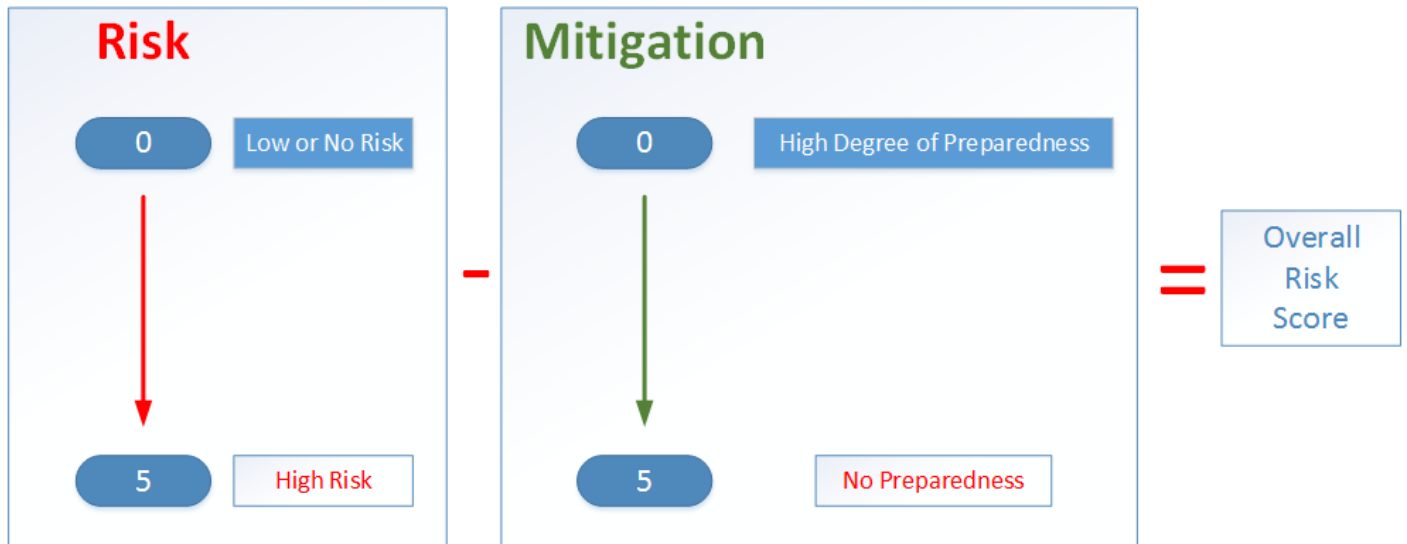
The Mitigation factors also have a 5-point scale from "0-Critical" to "5-No preparedness". These work as follows:

- A score of "0" for Preparedness means you have the highest level of preparedness for that item possible, and it will lower the overall risk for that item. A score of "5" on the other hand, means you aren't prepared at all, and the overall risk for that item goes up (5 is "very bad")

Taken together, you can get a good assessment of your risks and vulnerabilities.

How to Look at the Scales

The following graphic attempts to show the relationship between the risk scale and the mitigation scale:



Saving and Exporting

At the bottom of the Hazard Input view are the following buttons:

1. Save
2. Reset
3. Export to Excel

The "Save" button simply does that - it saves your work and displays your user name and the data saved at the top of the form until the next person (or you) comes along. **IT IS VITALLY IMPORTANT THAT YOU SAVE YOUR WORK BEFORE QUITTING THE APPLICATION. IT DOES NOT SAVE AUTOMATICALLY.**

The "Reset" button is designed to "start over". It should reset all values in a non-saved document to reset to 0 (NOTE: This may not function correctly right now, but it is being worked by our technical team)

"Export to Excel" will create a nicely-formatted Excel workbook with tabs for each major Hazard category along with the values in the Hazard input view. Please note that you can't change values in the spreadsheet - it does not recalculate any scores.

If you would like to get input from other staff members, we do have an Excel template you can use for that purpose. You can download it from the Document Portal by [clicking here](#).

Entering Data

Entering data into the HVA application is simple. You enter a value in the risk and mitigation sections for each incident, and after the second data item is entered, the application will start to calculate both incident risk and category risk.

Following is an example with several rows completed to show the scoring method:

Hazards Inputs - Facility Name:

Natural Hazard

Technological Hazard

Human Hazard

Ha

Example of a maximum risk incident with absolutely no preparedness

Hazard Level Risk : 57.44%

Last Updated User:

Last updated date:

* : 0 - N/A, 1 - Low, 2 - Moderate, 3 - High, 4 - Very High, 5 - Critical

** : 0 - Critical, 1 - Very High, 2 - High, 3 - Moderate, 4 - Low, 5 - No Preparedness

Event Name	Probability *	Human impact *	Property impact *	Business impact *	Warning Time *	Duration *	Preparedness **	Internal response *	External response **	Risk
Blizzard	1	3	4	4	3	3	4	4	4	14.50%
Dam Inundation	5	5	5	5	5	5	5	5	5	100.00%
Drought	5	5				5	0	0	0	62.50%
Earthquake										

Example of a maximum risk incident with maximum preparedness

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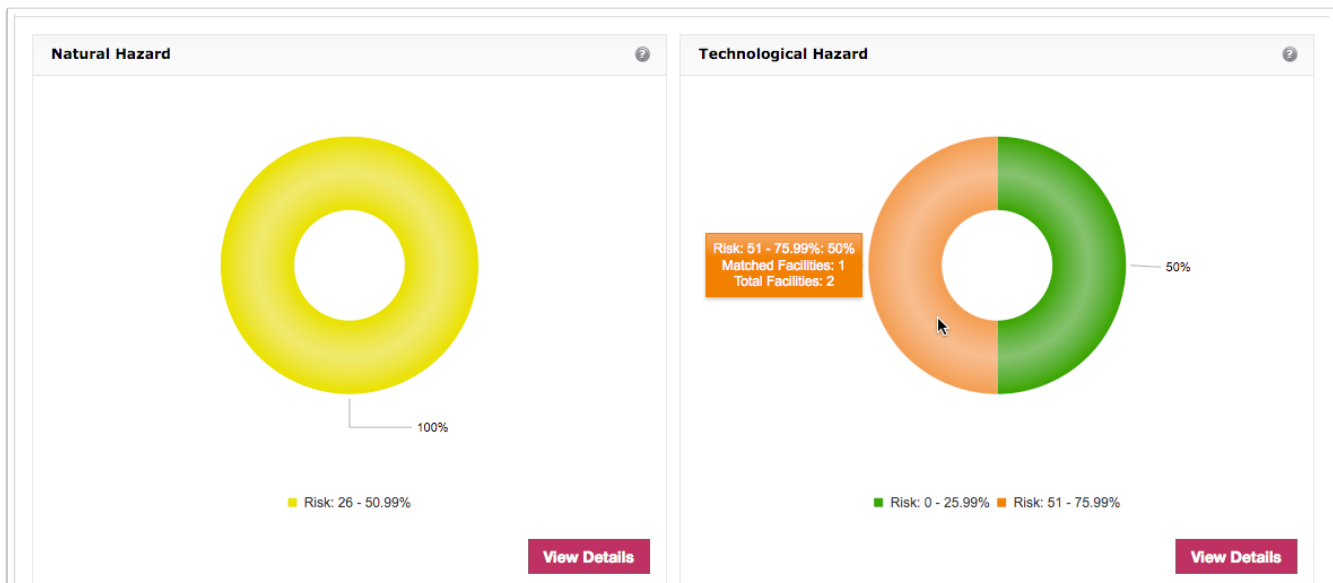
Multi-Facility Reporting

If you are associated with multiple facilities, the dashboard will begin to populate with results as you begin to provide data. In this example, we have completed the Natural and Technological Hazards reporting for the two facilities for which this person is responsible.

Note the data is presented in quartiles of:

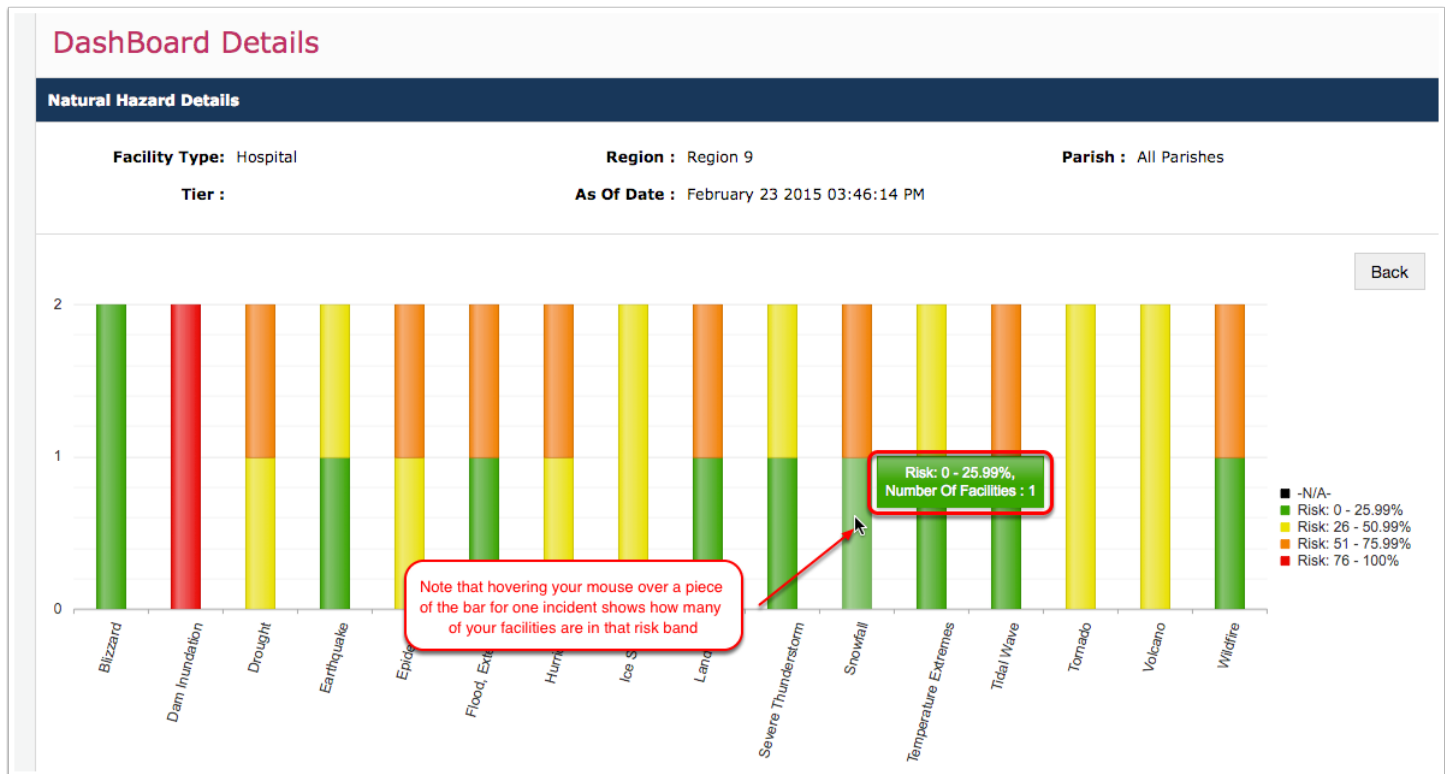
- 0 to 25% risk
- 26% to 50% risk
- 51% to 75% risk
- 76% to 100% risk

Note that if you hover over a portion of the donut, it will tell you how many of your facilities are in that particular risk band.



Clicking on a Slice

If you click on a slice of a donut, it will open a page of bar charts showing the risk level for each incident for that slice. This first "dive" shown above shows the incident-by-incident results for the one facility that has a Technological risk level between 51% and 75%. You will notice that the risk score by incident for each facility is represented in the chart.



More Slices

Clicking on a particular slice of a bar will yield more detail: The names of each facility and their respective risk



Exporting This Data

If you drill down to the detail comprising each bar, you can export those results alone to Excel as shown:

Facility Name	
A	B
1	Facility Name
2	Risk%
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More Reporting and Other Features To Come

We are working on additional graphical reports that will reside inside of the application.

We are also working on giving the facilities a note field that will allow documentation of the scores so that these can be readily explained to external reviewers or other interested stakeholders.

Getting Help

As with all other ESF 8 Portal applications, please email us at esf8help@la.gov, and we will answer you as soon as we can. If you can, please include any relevant screen shots of error messages or other glitches that may surface.

Thanks for your patience, and please don't hesitate to contact us at esf8communications@la.gov.